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LUSTRATIVE CASES.

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REPRINTED FROM THE JOURNAL OF  
CUTANEOUS AND GENITO-URINARY  
DISEASES

FOR APRIL, 1892.







SOME DIFFERENTIAL POINTS IN THE DIAGNOSIS OF SYPHILIS  
AND TUBERCULOSIS WITH ILLUSTRATIVE CASES.<sup>1</sup>

BY

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THE objective identity of many of the manifestations of syphilis and tuberculosis renders their differential diagnosis oftentimes a matter of extreme difficulty even to the most practiced physician. The recent advances made in our knowledge of the pathology of syphilis have, paradoxical as it may appear, materially enhanced the difficulty of establishing a positive diagnosis in these cases. The wider and more exact knowledge of the manifold and complex relationships of syphilis, developed by modern research, has introduced an element of confusion in the interpretation and classification of many morbid states concerning the nature of which there was formerly no question. The explanation of this is not far to seek; formerly this class of manifestations was unhesitatingly referred to struma as the generating cause, but with a clearer appreciation of the fact that syphilis is capable of causing analogous if not identical phenomena, many lesions formerly classed as scrofulous are now recognized as undoubted expressions of the syphilitic diathesis. There is perhaps no manifestation of tuberculosis which may not be accurately simulated by syphilis.

The elucidation of the etiological factor in these doubtful lesions is important from the standpoint of scientific accuracy, but especially so from a practical point of view, since the recognition of a syphilitic element brings them within the resources of a medication which is most prompt and powerful to cure.

In the endeavor to differentiate between these morbid types the ordinary method of procedure must be modified. The objective character of the lesions which ordinarily serve as the basis of diagnosis furnish no valuable indications, since they may be common to both. The eruptive elements, the localization and grouping, the entire clinical picture, may be similar in both

<sup>1</sup> Read before the New York Academy of Medicine, Genito-Urinary Section, January 14, 1892.



diseases. In seeking points of distinction and difference we find only analogies and resemblances. There may be present no single symptom pathognomonic of either which shall serve as the point of departure of a clear line of demarcation between them. Subjective sensations are absent in both, so that we are compelled to rely upon the history, the concomitant symptoms or pathological coincidences. Even these in turn may fail and we may be forced to fall back upon the test of treatment as the only available means of diagnosis. It is well to bear in mind that the problem may be still further complicated by the coincident development of syphilis and scrofula in the same subject. The co-existence of the two diseases in the same individual has, indeed, suggested a possibility of the combination or symbiosis of the two morbid processes, constituting what has been termed *scrofulo-syphilis*.

The case now presented illustrated in a peculiarly forcible manner, especially when the patient first came under observation, the difficulty often encountered in practice of differentiating between lesions common to both tuberculosis and syphilis. Happily in this instance any doubt as to the syphilitic character of the accidents was speedily cleared up by the intervention of specific treatment.

The patient, *æt.* 22, was referred to me by Dr. V. P. Gibney November 28, 1891. He was born in Ireland, came to this country eight months ago. His family history is good. His father died *æt.* 76; his mother, *æt.* 59, is still living. Of his three brothers and two sisters all are living in good health, with the exception of one brother who died of consumption. When nine years old the patient had an attack of typhoid fever which left bed sores that were several months in healing, with this exception he has always enjoyed fair health. About four years ago he had two or three venereal sores which his physician pronounced to be hard chancres. They were cauterized and healed in three or four weeks. He gives no history of a generalized eruption, alopecia, mouth lesions or other secondary manifestations.

About a year ago he had a swelling just underneath the left ear which resulted in an abscess. This was opened but did not heal for a long time; six months ago he observed a number of sores in the left cervical triangle which, when he came under my observation, were still ulcerous and covered with crusts. Over the outer anterior aspect of the right elbow joint there were four or five lesions of circular contour surrounded by reddish-brown pigmented borders, one of which had cicatrized, the others were still ulcerative and encrusted.



In Jan., 1890, he observed that his left testicle was swollen and slightly painful. A physician strapped the testicle, and, three months later, tapped him for hydrocele. At present there is evidence of a slight accumulation of fluid in the vaginal sac. The body of the testicle is hard, swollen to three or four times its normal size, but still preserving its ovoid form. The upper portion is capped by a plate-like induration of cartilaginous hardness, with nodular protuberances here and there. This was at first thought to be the epididymis, but more careful examination showed that the epididymis was only partially embraced by this shell-like covering.

The testicle was absolutely insensitive and could be roughly handled without provoking pain. The vas deferens was apparently normal. About six or eight months ago he observed a swelling of the right elbow joint which had gradually increased, interfering with free motion of the joint. When he came under my observation the appearance of the joint was strikingly suggestive of a white swelling. Examination showed that there was marked enlargement of the lower end of the humerus and the head of the radius. There was marked ankylosis. The arm was flexed at an angle of forty-five degrees, and pronation and supination were interfered with. There was also a prominent enlargement of the lower end of the radius.

The condition of the right ankle joint could not be ascertained from examination, as it was securely done up in a plaster bandage which I did not care to remove. I am indebted to Dr. Gibney, under whose care the patient had been, for notes of the condition of the ankle joint.

**OSTITIS OF THE RIGHT ANKLE, INVOLVING THE EPIPHYSES TIBIA AND FIBULA.**—While crossing on the steamer in April last, in stepping down the companion way, he slipped and sprained his ankle. He walked about on it, but it pained him whenever he used it much. Has troubled him ever since. Has been to Forty-second Street Hospital, Out Patient Department, four or five weeks, wearing an anklet.

The movements are restricted in flexion, in and e-version, and extension. The foot hangs at an angle of about  $110^{\circ}$ . Over each malleolus there is a large swelling, boggy, and the outlines of the bone are ill-defined. This is still more true at the inner malleolus. It almost amounts to fluctuation. The bones of the tarsus seem to be normal, so far as one can tell by handling. The measurements are :

Just above the swelling.....	8¾
Over the swelling.....	11½
Heel and instep just under the swelling.....	12¾
Instep .....	9¾
Calf.....	11½

August 6th, put up in a water glass splint at the hospital, plaster-of-paris over this, to have the plaster removed a few days later.

November 28th, syphilitic nature of the disease suspected and patient referred to Dr. Morrow, New York Hospital, for treatment.

Under the influence of specific treatment there was a prompt amelioration of all the symptoms. The cutaneous lesions healed, the size of the testicle has been reduced more than one-half, with resorption of many of the protuberant nodules, the swelling of the joint has decreased wonderfully, permitting much more extended and freer movements.

It will be seen from this history that the patient presents three orders of lesions affecting the tegumentary, the genital and the osseous systems respectively. In order to bring out certain points in the differential diagnosis of tuberculosis and syphilis it will be convenient to consider in detail the chief characteristics of their manifestations upon these organs.

**CUTANEOUS LESIONS.**—Although the eruptive elements in the case just reported were neither extensive nor first in order of development, yet in many cases of tuberculosis and syphilis, the cutaneous manifestations constitute most important diagnostic features. I shall not attempt to cover the broad field of the differential diagnosis of scrofulo-derma and syphilo-derma, but shall refer more especially to the limited class of scrofulous lesions with which the tuberculo-ulcerous syphilide is liable to be confounded.

Certain general distinctions between the manifestations of each morbid type may thus be formulated.

1. Syphilitic lesions are general in their distribution, they may occur upon any region of the body. Scrofulous lesions are more limited in their localization, they have a special predilection for the neck or regions rich in lymphatic glands.

2. Syphilitic lesions are ambulatory and changing, they disappear and re-appear elsewhere. Scrofulous lesions are fixed and permanent.

3. The color of syphilitic lesions is of a reddish-brown, or lean ham tint—the color of scrofulous lesions is brighter and more violaceous in hue.

4. Syphilis is distinguished from scrofula in its objective appearances and mode of evolution. In the initial stage the syphilitic neoplasms are firm and hard; the scrofulous infiltra-



tions are softer and more compressible. In the ulcerative stage the differences are more pronounced ; the ulcers of syphilis are cleanly cut, regular in contour with perpendicular firmly infiltrated borders, encircled by a pigmented areola; scrofulous ulcers are irregular, with soft undermined borders, they are painless, bleed easily and show slight tendency to spread.

5. The crusts of syphilis are bulkier, thicker, with a tendency to accumulate in layers, and darker in color ; the cicatrices are smooth and remain long surrounded by a pigmented areola. The crusts of scrofula are softer, more adherent ; the cicatrices are elevated, irregular, bridled ; they retain their violaceous color for a long time.

6. The course of the syphilitic ulcer though sluggish and chronic is much more rapid than that of scrofula.

7. Absence of pain and local reaction characterize both syphilitic and scrofulous ulcers ; they are essentially lesions without symptoms.

GENITAL LESIONS.—Syphilitic epididymitis which occurs as a rule early in the evolution of secondary syphilis, usually about the fourth or fifth month, sometimes much later, is not apt to be mistaken for tuberculosis of the testicular apparatus, except in the beginning stage of tuberculous deposit in the epididymis. It affects the epididymis in the form of a small swelling or nodule, situated almost exclusively in the globus major, exceptionally in the globus minor, still more rarely in the body of the testis. It is frequently bilateral ; it is slow in development, indolent, painless, never suppurates, and undergoes rapid resorption under the influence of specific treatment.

The specific lesions of the testis which are to be differentiated from those of tuberculosis are distinctly tertiary, of the neoplastic or gummous type.

*Syphilitic Sarcocoele*, or syphilitic albuginitis as it is generally termed, is essentially a late manifestation occurring from the third to the twentieth year after infection, only exceptionally it is a precocious accident. Jullien observed it in 25 out of 234 cases of tertiary syphilis, a little over ten per cent. Fournier observed it in 6 out of 212 cases of hereditary syphilis, presenting identical features with those of the acquired disease. The affection may be unilateral but is commonly bilateral, involving both testes simultaneously or successively. There are no statistics with which I am acquainted that give the relative proportion in which the testis is involved in tubercu-

losis. In a recent valuable monograph by Hjalmar Heiberg on "Die Primäre Urogenital tuberkulose des Mannes und Weibes" the analysis of 84 cases of genito-urinary tuberculosis shows that in 16 cases of primary tuberculosis the testicle was involved in 13; in 8 it was bilateral, in 5 it was one-sided. In 26 cases of secondary tuberculosis of the urogenital apparatus this organ was tuberculosed in 23; in 9 cases the disease was bilateral, in 14 one-sided.

Without entering into a description of the clinical features of syphilis and tuberculosis of the testis certain cardinal points of difference may be referred to.

1. The seat of syphilitic sarcocele is essentially testicular, in a majority of cases the epididymis escapes or is only incidentally involved in the infiltration; the primary seat of tubercular infiltration is always in the epididymis, the body of the testis being secondarily involved.

2. In syphilitic sarcocele the ovoid form of the testicle is preserved. Hyperplastic infiltration of the connective tissue may be general or partial, presenting in the form of indurated plaques of cartilaginous hardness which cap the body of the testis like a shell. These vary in area and thickness and may be associated with hard nodular deposits upon the surface or in the body of the testicles which form knobby protuberances. The tuberculous testis is increased in size, hard, irregularly nodular or lumpy.

3. In syphilis there is but slight tendency to degeneration or breaking down of the gummous nodules; in tuberculosis there is a more marked tendency to suppurative changes, the formation of abscesses and fistulous tracts.

4. Syphilitic fungus of the testicle is comparatively rare; it is characterized by the discharge of gummous material and disintegrated tubules, with more or less abundant granulations which bleed easily, no sinuses. Fungus of the tuberculous testis is also rare, the granulations are pale and soft, with numerous sinuses leading into the testicle.

5. In syphilis of the testicle the cord, seminal vesicles and prostate are not involved. In tuberculosis of the testis these organs are almost invariably implicated. Heiberg's statistics show that in the 13 cases of primary tuberculosis above referred to the seminal vesicles were involved in 8 cases, the prostate in 11; in 23 secondary cases the seminal vesicles were affected in 14 cases, the prostate in 15.

6. Hydrocele is almost constantly associated with syphilis



of the testicle; in tuberculosis of the testis in not more than one-third of the cases.

7. In both forms the development is slow and insidious, the diseased organ insensitive and the entire process is indolent and aphlegmasic.

OSSEOUS LESIONS.—As my paper has already extended beyond the proposed limits, I shall only endeavor to indicate in the most general way a few of the more characteristic diagnostic points of syphilitic and tuberculous osteitis. In the first place it may be said that the *localization* of the lesions constitutes an important diagnostic feature, as each disease exhibits marked preferences for certain portions of the bony system.

1. Syphilis exhibits a marked predilection for the long bones; its habitual localization is in the diaphysis and almost always at its terminal extremity. Tuberculosis is almost exclusively seated in the epiphyses, rarely affecting the shaft.

2. In syphilis there is a marked enlargement of the bone by more or less voluminous osseous tumors or hyperostoses, with little or no involvement of the soft parts; in tuberculosis the tumefaction is due less to increase in size of the bone than to oedematous infiltration of the soft structures.

3. In syphilis there is little tendency to suppuration and necrosis; in tuberculosis the pyogenic tendency is marked.

4. In syphilis osteocopic pains, with tendency to nocturnal exacerbation, is a pronounced feature; in tuberculosis the pain is dull and heavy, not aggravated at night, sometimes there is entire absence of acute painful symptoms.

5. The osseous lesions of syphilis rarely react upon the general system, while those of tuberculosis often determine a marked impairment of the general health, grave complications, hectic fever, cachexia, etc.

As already intimated, when the patient first came under observation there was a large globular swelling of the elbow joint constituting a condition known as the *pseudo-tumeur blanche syphilitique*. The morbid process instead of being localized in the shaft of the bone, its usual seat, was determined toward the epiphyses, affecting the articular extremities and associated probably with thickening of the periarticular fibrous tissues. In addition to the augmentation of volume of the joint structures there was a prominent hyperostosis of the distal end of the radius, traces of which may still be seen. The bony swellings could be distinctly mapped out beneath the skin, which was unaltered. The resemblance to white swelling of

tuberculous origin was emphasized by the pseudo-ankylosis of the joint and the limitation of movements. In true white swelling, however, the parts are hot, swollen and œdematous, soft and boggy to the feel, painful on pressure at certain points, with marked evidences of constitutional disturbance. It is a matter of regret that the type of osseous lesions so characteristically shown in this case was not preserved in a photograph.



FIG. 1.

Fig. 1, sent me by Fournier, admirably illustrates an analogous condition of the knee-joint.

DACTYLITIS.—A valuable feature of differentiation between syphilitic and tuberculous bony affections is that in syphilis the swelling is caused by an increase in the size of the bone with little involvement of the integrity of the soft parts, while in tuberculosis there is relatively much less increase in the bone, the volume of the swelling being due to the œdematous, infiltrated peripheric tissues. An exception to this is seen in a special



form of tuberculous known as spina ventosa or tuberculous dactylitis.

By the kindness of Dr. Fordyce I am able to present photographs of two cases, one representing an example of syphilitic, the other of tuberculous dactylitis, with the following brief notes:



FIG. 2.

DACTYLITIS SYPHILITICA.—Photograph by Dr. Piffard. (See Fig. 2.) G. F., aged 12 years; father and mother living, aged 52 years. Three children in family; oldest aged 23 years. All well.

One year ago a sore appeared below right ear which has discharged pus at various times since.

Eight months ago the metacarpo-phalangeal joint of the right index finger enlarged, followed by enlargement of the first phalynx of the left thumb and forefinger, then of the second phalangeal joints of the middle and ring finger. Seven months ago the right ankle was so swollen that he was obliged to remain in bed five weeks.

Examination revealed an enlargement of the first phalanges of the left thumb and forefinger and the right forefinger; second phalanges of the left middle and ring finger. Scars of old sinuses about the enlarged bones. Left wrist and right elbow enlarged.

Below, and posterior to right lobule, an old sinus leading to a superficial abscess cavity looking like the skin lesions in scrofuloderma; scar of old sore below right inner malleolus of tibia and on outer side of dorsum of right foot. A tender spot on inner side of right leg, just below head of the tibia.

Has been a patient in the Bellevue Out-Door Department since the middle of July, 1891, during which time a marked improvement has taken place under the use of mercury and iodides.

The joint swellings have diminished at least one-half in size. Patient has gained in weight and color.

**DACTYLITIS TUBERCULOSA.**—(See Fig. 3.) The patient, a young man, aged 18 years, presented no evidences of syphilis—hereditary or acquired—and gave no history which would point to such an infection.

Two years ago the right ring finger was amputated for the same condition which he now presents on his left ring finger—a fusiform swelling of the first phalangeal joint. The joint enlargement has existed for six months and has proved rebellious to anti-syphilitic remedies.

Physical examination revealed a consolidation of the apex of the left lung.

That form of syphilitic dactylitis due to gummous infiltration of the superficial tissues or periostum, is not so liable to be confounded with tuberculous dactylitis, but in the deeper form, when the gummous deposit is seated beneath the periosteum or in the medullary canal, the differentiation from the tuberculous type is often extremely difficult. In both diseases the development is slow and indolent. In both the localization may be identical, the proximal phalanx being most frequently affected, but any or all of the phalanges of one or several fingers may be the seat of the disease; multiplicity is more characteristic of the syphilitic type. In both there is more or less articular stiffness.

In syphilitic dactylitis the integument is often inflamed and



reddish, the swelling hard, firm and symmetrical, assuming an acorn or fusiform shape, and showing little tendency to supuration and ulceration.

In tuberculous dactylitis the integument is thickened, bluish-red or livid in color and often streaked with sinuous veins, the swelling is balloon-shaped but not as a rule so symmetrical

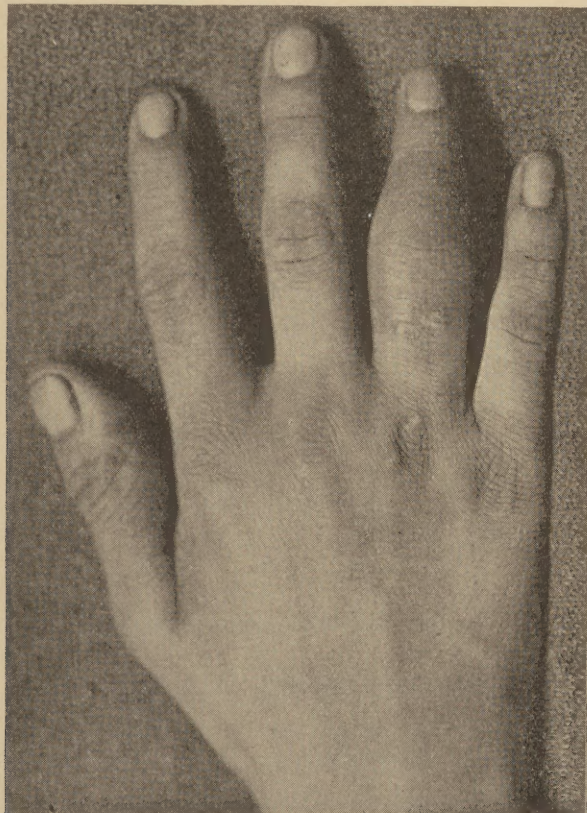


FIG. 3.

as in syphilis, it terminates more abruptly and is often marked by a lump or nodule at the side which suppurates and ulcerates, giving exit to cheesy pus, the sinues leading to dead bone or into the enlarged medullary canal.

I have thus indicated briefly the more salient points of difference in the objective physiognomy and the clinical course of

certain manifestations of syphilis and tuberculosis. By bearing in mind the semeiological elements peculiar to each morbid type, it is possible, in a majority of cases, to differentiate between them and assign to each diathesis the lesions which they respectively determine. Still, in many cases we must institute a careful inquiry into the history and pathological coincidences in order to clear up the doubtful nature of the lesions. A clear syphilitic history and the presence or antecedent marks of specific lesions would, of course, constitute strong *prima facie* evidence of their syphilitic nature. So, likewise, tuberculous lesions of the lungs or other organs would afford presumptive proof of their tuberculous origin. In many cases, however, the history fails or is lacking in elements of positive value, and recourse must be had to the test of treatment.

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